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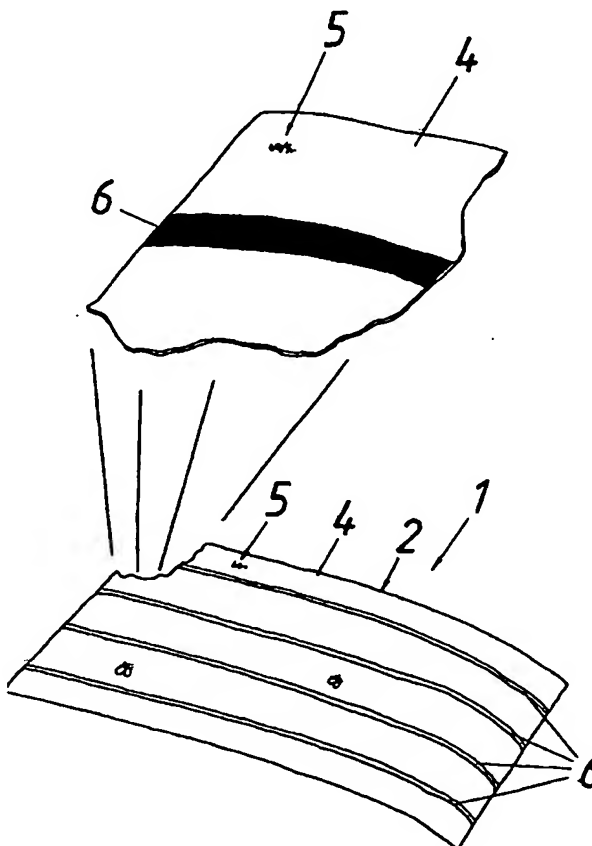
INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<p>(51) International Patent Classification ⁶ : A01M 1/04, 1/14</p>	<p>A1</p>	<p>(11) International Publication Number: WO 97/01272 (43) International Publication Date: 16 January 1997 (16.01.97)</p>
<p>(21) International Application Number: PCT/SE96/00783 (22) International Filing Date: 18 June 1996 (18.06.96) (30) Priority Data: 9502308-1 27 June 1995 (27.06.95) SE (71) Applicant (for all designated States except US): SILVANDERSSON MILJÖ AB [SE/SE]; P.O. Box 56, S-310 20 Knäred (SE). (72) Inventor; and (75) Inventor/Applicant (for US only): SILVANDERSSON, Åke [SE/SE]; Pramvägen 13, S-310 20 Knäred (SE). (74) Agent: CEGUMARK AB; P.O. Box 53047, S-400 14 Göteborg (SE).</p>		<p>(81) Designated States: JP, US, European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published With international search report. In English translation (filed in Swedish).</p>

(54) Title: DEVICE IN CONNECTION WITH A TRAP FOR INSECTS

(57) Abstract

The invention relates to an insect trap (1) formed from a trapping component (2, 3) in the form of a sheet or strip, which has a surface (4) coated with an adhesive (5) intended to hold insects fast on the trapping component. The aforementioned surface (4) is provided with lines or similar markings (6) against a light background. The trapping component (2, 3) is provided, at least along a certain part of it, with a fluorescent or phosphorescent substance, in the form of gravure printing ink, so arranged as to increase the visibility under reduced light conditions, i.e. in the early morning and evening.



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Device in connection with a trap for insects

The present invention relates to an arrangement for an insect trap formed from a trapping component in the form of a sheet, strip or line so arranged, in its extended state, as to be set up in areas where insects are present, and which has a surface coated with an adhesive intended to hold insects fast on the trapping component.

No effective means are available at the present time to increase the visibility and thus the effective trapping period of insect traps of the indicated kind, which are intended in the first instance to be hung, glued or otherwise set up in cow-sheds, stables and similar areas, or in dwellings and other premises in which flies and other insects can cause problems and discomfort to cattle, humans and domestic animals, and can cause health problems in relation to food stored, for example, in retail premises.

Previously disclosed through US,A, 4,411,093 is a means of trapping insects with the help of a tube hung up at the trapping point. The aforementioned tube is in the form of a number of wound layers of paper, one of which is coated with a fluorescent substance. A layer with flies printed on it wound over the fluorescent layer is in turn coated with a layer of protective lacquer. The effective trapping period is certainly increased with this trapping arrangement, although the effective trapping surface area is limited and is likely to become covered with insects quickly, whereupon it will cease to function.

DE,C, 346 372 relates to a trapping arrangement in the form of a cylindrical strip of cardboard with alternating rows of strong colour and an adhesive trapping substance. The strip of cardboard is intended to be drawn out into the form of a pyramid or cone, thereby forming a spiral of adhesive and bright colour. Apart from the fact that this trapping arrangement lacks markings of a so-called

luminescent substance, it does not lend itself to being set up in an extended state, but must be set up in a similar fashion to conventional spirally extending insect trapping strips, which exhibit the characteristic of attaching
5 themselves to persons present in the vicinity of the trapping arrangement.

DE,C, 374 805 shows a variant of the trapping arrangement in accordance with DE,C, 346 372, but with insect adhesive and colour markings arranged at an angle in relation
10 to the edges of the strip. This trapping arrangement, too, does not exhibit any luminescent markings and is also not intended to be hung in a freely extended state, but rather in the form of a cone.

The principal object of the present invention
15 is thus, in the first instance, to make available an insect trap of the kind indicated above which exhibits better visibility for the insects.

The inventor of the present insect trap is the market leader in the field and has attempted for more than 10
20 years to develop an insect trap which is more effective for a major part of the 24-hour day, i.e. also when the level of available light is low at dawn and in the evening. Following research and experiments, the aforementioned problem has now been solved successfully by simple and effectively
25 functioning means.

The aforementioned object is achieved by means of an insect trap in accordance with the present invention, which is characterized essentially in that the trapping component is provided, at least along a certain part of it,
30 with a fluorescent or phosphorescent substance so arranged as to increase the visibility under reduced light conditions, i.e. in the early morning and evening, in that the trapping component is provided with fluorescent or phosphorescent markings along its surface produced with gravure printing
35 ink, in conjunction with which the aforementioned markings

are in the form of a number of lines or similar patterns of insects as a border of recognizable markings of a different form against a light background.

The invention is described below with
5 reference to the accompanying drawings as a number of preferred illustrative embodiments, in which

Fig. 1 shows a plan view of an insect trap in accordance with the invention;

Fig. 1A shows a part of the aforementioned
10 insect trap;

Fig. 2 shows a perspective view of the strip-formed type of insect trap hung up horizontally;

Fig. 3 shows a trap in the form of a trapping strip capable of being extended vertically from a roll; and

15 Fig. 4 shows a trap in the form of a sheet folded to form a sleeve.

An insect trap 1 in accordance with the present invention, which is in the form of a sheet 2, strip 3, line or other form of trapping component made of plastic
20 or some other suitable material, and which has a surface 4 covered with an appropriate adhesive 5 intended to hold flies or other insects fast to the aforementioned trapping component, exhibits means for increasing the effective function of the insect trap. The aforementioned trapping
25 component 2, 3 is provided, at least along a certain part of it, more specifically with a fluorescent or phosphorescent substance so arranged as to increase the visibility of the trapping component under reduced light conditions when compared with previously disclosed insect traps.

30 The trapping component 2, 3 exhibits fluorescent or phosphorescent gravure printing ink as the aforementioned means, appropriate colours for which are red, yellow or orange.

Preferably one surface 4 of the trapping
35 component 2, 3 is provided with a number of preferably

straight parallel lines or other similar markings 6 against a light background, which markings 6 are formed by gravure printing with the aforementioned fluorescent or phosphorescent gravure printing inks. Markings of a different form, for example dots, rings, squares or patterns, can be applied to the trapping component 2, 3. This so-called fluorescent function (luminescence) of the markings 6 is so arranged as to increase their visibility to a considerable degree under reduced light conditions; i.e. in the early morning and evening.

The aforementioned markings 6 are, for example, red, yellow or orange, and are produced by gravure printing in a previously disclosed fashion with the aforementioned inks on the aforementioned trapping surface. The aforementioned printing takes place before the adhesive 5 in question of an environmentally friendly kind is applied to the trapping surface 4.

When the insect trap 1 formed in this way is hung up, for example from a nail 7 in the ceiling 8 or on a wall 9, or around a pipe 10, or is set up in its extended state in some other appropriate fashion, any light reaching the trap 1 will make it possible for the insects to see the trap for a longer part of the 24-hour day. This is achieved thanks to the fluorescent or phosphorescent function of the trap 1.

Experiments have revealed that a trap 1 printed with fluorescent gravure printing ink in accordance with the invention so as to form lines 6, etc., upon which or adjacent to which insects attempt to land, was able to continue its insect-trapping function for no fewer than 3-4 hours longer in a 24-hour day.

A number of printed images 11 of insects can be present on the trap 1 in a previously disclosed fashion, the function of which is to attract live insects.

The invention is not restricted to the illustrative embodiments described above and illustrated in the drawings, but may be varied within the scope of the Patent Claims without departing from the idea of invention.

- 5 The entire insect trap may thus be made luminescent, and its form may be varied from a length of string to a large sheet according to needs and wishes.

P a t e n t C l a i m s

5 1. An insect trap (1) formed from a trapping
 component (2, 3) in the form of a sheet, strip or line so
 arranged, in its extended state, as to be set up in areas
 where insects are present, and which has a surface (4) coated
 with an adhesive (5) intended to hold insects fast on the
10 trapping component (2, 3), **characterized in that** the trapping
 component is provided, at least along a certain part of it,
 with a fluorescent or phosphorescent substance so arranged as
 to increase the visibility under reduced light conditions,
 i.e. in the early morning and evening, in that the trapping
15 component is provided with fluorescent or phosphorescent
 markings (6) along its surface (4) produced with gravure
 printing ink, in conjunction with which the aforementioned
 markings are in the form of a number of lines or similar
 patterns of insects as a border of recognizable markings (6)
20 of a different form against a light background.

2. An insect trap (1) as claimed in Patent Claim
 1, **characterized in that** the gravure printing ink is red,
 yellow or orange.

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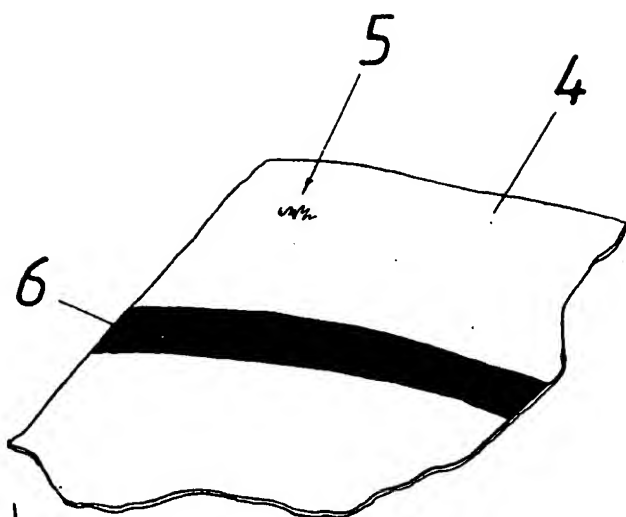


FIG. 1A

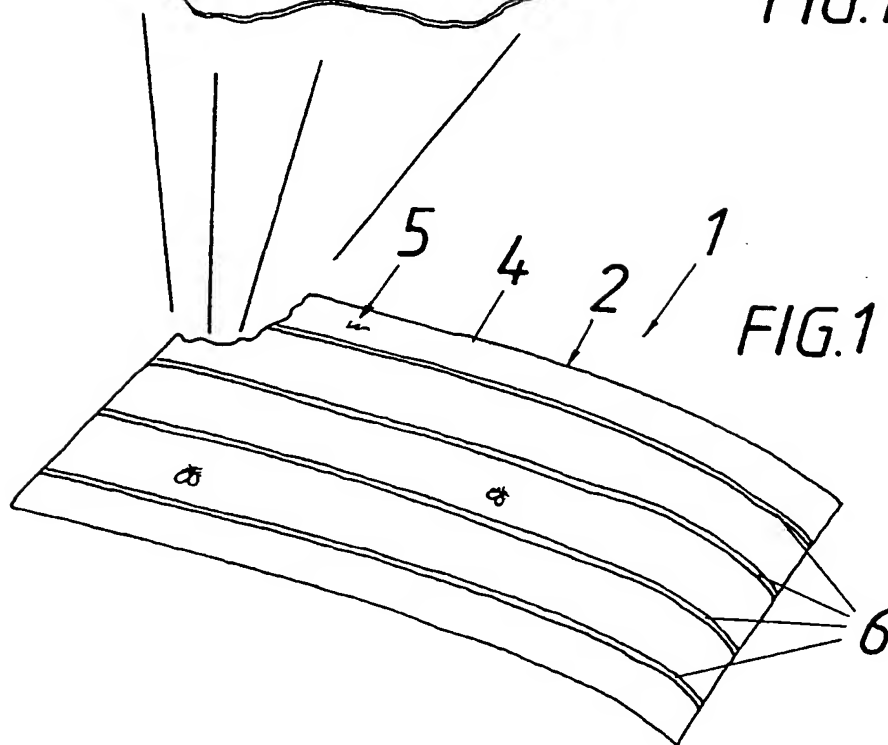


FIG. 1

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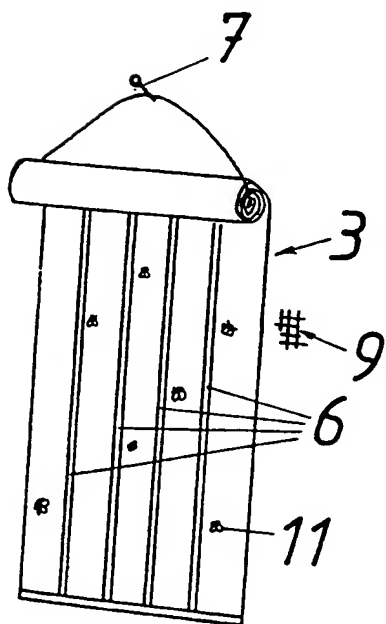
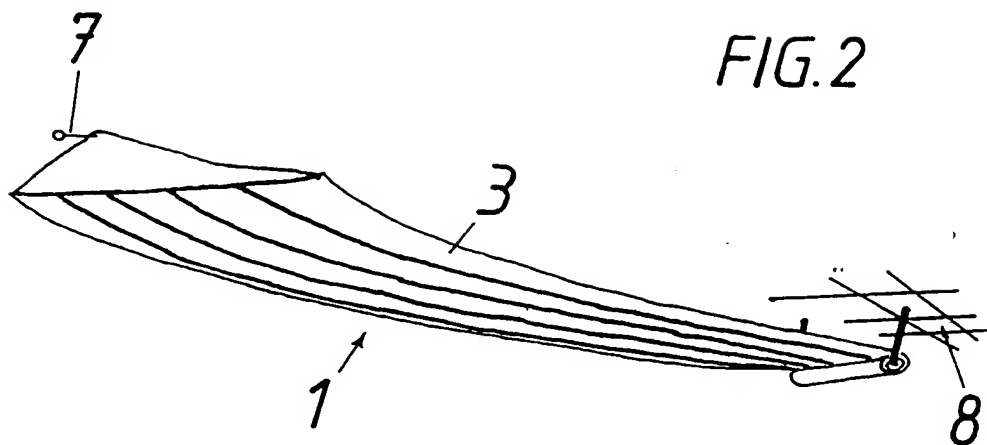


FIG. 3

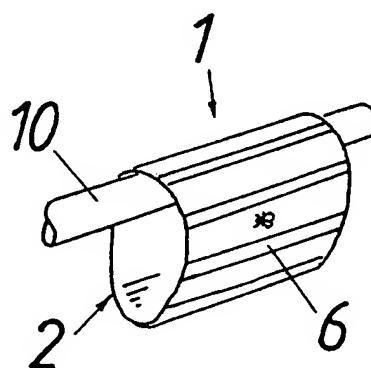


FIG. 4

INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 96/00783

A. CLASSIFICATION OF SUBJECT MATTER

IPC6: A01M 1/04, A01M 1/14

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC6: A01M

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

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C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4411093 A (ASTOUT ET AL), 25 October 1983 (25.10.83), figure 1, claims 1-3, abstract --	1-2
X	FR 2129272 A (FISCHER HENRI), 27 October 1972 (27.10.72), claims 1-4 --	1-2
X	FR 933492 A (M. MAURICE FERNEZ), 22 April 1948 (22.04.48), page 2, line 7 - line 31, figures 1-3, abstract --	1-2
X	FR 907738 A (SOCIETE DES LABORATORIES VITAL O. GASSMANN), 20 March 1946 (20.03.46), page 2, line 19 - line 25, figures 1-3, claim 1 --	1-2

☒ Further documents are listed in the continuation of Box C.☒ See patent family annex.

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Date of the actual completion of the international search

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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X	CH 234057 A (HERBERT HAARBURGER), 1 December 1944 (01.12.44), page 1, line 1 - line 14, claim 1 --	1-2
X	DE 374805 C (FRIEDRICH HARBACH), 1 May 1923 (01.05.23), page 1, line 1 - line 58, figures 1,2, claim 1 --	1-2
X	CH 246596 A (FRITZ MOSIMANN), 1 October 1947 (01.10.47), page 1, line 1 - line 23, claim 1 -- -----	1-2

INTERNATIONAL SEARCH REPORT
Information on patent family members

05/09/96

International application No.

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US-A- 4411093	25/10/83	NONE	
FR-A- 2129272	27/10/72	NONE	
FR-A- 933492	22/04/48	NONE	
FR-A- 907738	20/03/46	NONE	
FR-A- 856313	11/06/40	NONE	
CH-A- 234057	01/12/44	NONE	
DE-C- 374805	01/05/23	NONE	
CH-A- 246596	01/10/47	NONE	